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(21) Application No. 54126/74

(22) Filed 14 Dec. 1974

(19)

(23) Complete Specification filed 9 Dec. 1975

(44) Complete Specification published 2 Nov. 1977

(51) INT. CL.⁸ C11C 5/00 5/02

(52) Index at acceptance

C5W 11B

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(54) IMPROVED METHOD OF MAKING CANDLES

(71) We, CRAFT CANDLES LIMITED, a British Company of Homerton Street, Cambridge, CB2 2NZ, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention concerns methods and apparatus for forming candles from wax.

The present invention seeks to provide an improved method and apparatus for performing same by which a thin flat sheet of wax having uniform thickness and substantially flat surfaces and commonly referred to as a "wax flat" or "candle flat" can be formed, and which, when heated can be wrapped around a wick to form a candle.

It is an object of the present invention to provide in such a method, a step by which the surface of the finished candle can be improved by the use of a suitable material in a mould.

According to the present invention a method of forming a candle from wax comprises melting the wax to a temperature at which it can be poured, pouring the molten wax into a shallow open mould having a layer of sheet plastics material covering at least the flat lower surface thereof which distorts when heated by the wax and causes the underside of the cast wax to have indentations therein, cooling the wax to form a wax flat (as herein defined) and removing it from the mould, the flat having a smooth upper side and a rough underside, cutting the wax flat to refine a trapezoidal or triangular shape, softening same by warming, embedding a wick in the smooth side of the flat adjacent one edge thereof and wrapping the flat around the wick to form the candle with the rough side of the flat outermost.

Preferably the mould is formed from a frame of strip material such as aluminium and a layer of sheet plastics material is sandwiched between the lower edge of the frame and a flat supporting surface.

Preferably the sheet plastics material is polyethylene sheeting.

Preferably the flat surface is chipboard sheet. Problems of bending of such sheet are eliminated by using pieces not greater than 2 feet by 4 feet.

Preferably the wax is a paraffin wax having a melting point in the range 125—135°F. It has been found that paraffin waxes having melting points in this range are best in general for wrapping.

Conveniently some 5% to 10% by weight of the melt is stearin to improve the rigidity of the final wax.

Preferably dye and/or perfume are added to the initial melt.

Since a correct volume of wax must be added to the mould so as to form a sheet of wax therein having a desired thickness, the hot wax is conveniently ladled to the mould.

After cutting, the subsequent softening operation is best performed by standing the wax flats vertically end on in a water bath or the like.

The invention may also include the further steps of bottoming and flaring the wrapped flat. This is achieved by placing the wrapped flat between two hands and striking it hard on a flat surface or simply placing two hands around the wrapped flat and pressing the bottom down on the flat surface. The result is to force the turns of the spiral in a downward direction and the net effect is to flare the base region of the candle so formed and flatten the lower underside.

Excess flare of the candle can be removed by rolling the candle on its side with pressure gently exerted on the lower part during rolling by gentle pressing of the hand.

The invention will now be described by way of example with reference to the accompanying drawings in which:

Fig. 1 is a plan view of a frame which can be used to form a mould for coating wax.

Fig. 2 shows a preferred arrangement of 8 such frames to form a multiple mould in a single plane.

Fig. 3 is a side view of a stack of frames and supporting plates.

Fig. 4a to 4d illustrates four different

ways in which a rectangular wax flat can be cut to produce a wax wrap from which a candle can be formed.

Fig. 5 illustrates the positioning of a wick on a candle wrap and

Fig. 6 is an end view of the wrapped candle.

As shown in Fig. 1, a frame for a candle casting mould is formed from 1" wide aluminium strip 10 which is bent to form a rectangle, the two ends of the strip 12 and 14 overlapping by approximately 2" to prevent loss of molten wax. A mould is formed from the frame shown in Fig. 1 by laying the frame on a sheet of plastics material such as polyethylene which itself lies on a flat supporting plate (not shown).

In the commercial production of hand-made candles, it is necessary to cast a large number of candle flats simultaneously and to this end, as shown in Fig. 2 a number of frames 16 of the type shown in Fig. 1 are located on a rectangular rigid backing member 18. Sandwiched between the frames 16 and the backing member 18 is a sheet of polyethylene.

The object of employing the polyethylene sheeting is to produce indentations in the surface of the cast wax. The effect is to produce an antique finish on the surface of the candle.

A preferred material for the backing member 18 is 1" thick chipboard and to guarantee the required degree of rigidity thereof, the chipboard should have an area no greater than 2 feet by 4 feet.

As shown in Fig. 3, a plurality of frames 16¹, 16¹¹ etc. may be stacked one upon the other, each pair being separated by a sheet of polyethylene and supporting plate 20 of chipboard.

For convenience the initial casting process produces a rectangular shaped slab of wax which must then be cut as shown in Figs. 4a to 4b in one of the four different ways shown therein to produce trapezoidal or triangular shape wax slabs which, on being suitably heated can be wound in a spiral manner around one end to form a candle, which after the step of bottoming, will be found to have a flared lower end. The various illustrations of cut shown in Figs. 4a to 4d will provide different shapes of wrap from which candles can be formed and depending on the particular cut selected, so the final proportions of the candle can be determined.

As shown in Fig. 5, the initial step of wrapping the so-called wrap comprises inserting into the wrap and partially embedding in the surface of the wax a length of wick 22. After securing the wick in place by pressure, the wrap 24 is coiled on itself beginning the coiling at the end containing the wick so that the end-on view of the final

result is as shown in Fig. 6. The final wrapping process is preferably performed on a hard flat surface which is warm to the touch. Failure to do this results in surface cracks from cooling of the wax as it makes contact with a colder surface. On the other hand if the wax is too hot the wrap will crack from rotten wax. A preferred method of wrapping involves taking a soft cut wrap and laying a wick across the longer end approximately one-half inch from the edge as shown in Fig. 5, with the contoured side facing down and the smooth side facing up. Approximately one-half inch of the length of the wick should extend below the bottom edge of the wrap (the lower edge shown in Fig. 5). The half-inch strip of wax beyond the wick is then folded over the wick and firmly pressed down. If the pressing is not firm enough the wick will pull out of the finished product. If properly pressed down the candle will swing from the wick without danger of losing it. After the wick has been pressed home and embedded in the wax, the remainder of the candle is rolled, care being necessary to ensure that the last few inches are snugly wrapped. If a gap is allowed the candle will break.

The process of so-called bottoming is performed either by placing two hands around the wrapped article and striking it on a hard surface or by placing two hands around it and pressing the bottom down on to the surface. In either event, the result will be a flat bottom to the wrapped article having a flared base due to the pressure applied from above. The flare is minimised and the candle checked for straightness. To minimise the flare the candle is laid on its side and rolled with pressure gently exerted on the lower portion of the wrapped article (i.e. by placing the hand over the section of the length of the wrapped article which corresponds to the lower part when the candle stands upright).

After checking for straightness the candle is allowed to cool and drain.

All candles will bend with gravity. Steps can be taken to reduce this bending. To this end the finished candle should be plunged into a tank of cold water so as to harden the external surfaces. The best temperature for the water and the length of time for immersion vary depending on the wax employed and the size of the candle. After the candle has been immersed its straightness again must be checked. If it is found that the water cooled candle does not remain straight it should then be placed in front of a fan to continue the cooling and hold the surface at a temperature low enough to keep the soft centre upright.

WHAT WE CLAIM IS:—

1. A method of forming a candle from 130

5 wax comprising the steps of melting the wax
to a temperature at which it can be poured,
pouring the molten wax into a shallow open
mould having a layer of sheet plastics ma-
terial covering at least the flat lower surface
thereof which distorts when heated by the
wax and causes the underside of the cast
wax to have indentions therein, cooling the
wax to form a wax flat (as herein defined)
10 and removing the flat having a smooth upper
side and a rough underside, cutting the wax
flat to define a trapezoidal or triangular
shape, soften same by warming, embedding
15 a wick in the smooth side of the flat ad-
jacent one edge thereof and wrapping the flat
around the wick to form the candle with the
rough side of the flat outermost.

20 2. The method as claimed in claim 1 in
which the sheet plastics material is polyethyl-
ene sheeting.

3. The method as claimed in claim 1 or
2 in which the wax is a paraffin wax having
a melting point in the range 125—135°F.

25 4. The method as claimed in claim 1, 2
or 3 in which 5% to 10% by weight of the
melt is stearin to improve the rigidity of the
final wax.

30 5. The method as claimed in any of
the preceding claims in which dye is added
to the initial melt.

6. The method as claimed in any of the

preceding claims in which perfume is added
to the initial melt.

7. The method as claimed in any of the
preceding claims in which the melted wax 35
is ladled into the mould.

8. The method as claimed in claim 1 in
which the wax flat is softened by standing
it vertically end on in a hot water bath.

9. The method as claimed in any of the
preceding claims further comprising the step 40
of bottoming and flaring the wrapped flat
by placing the wrapped flat between two
hands and striking it on a flat surface.

10. The method as claimed in any of 45
claims 1 to 8 comprising the step of placing
two hands around the wrapped flat and
pressing the bottom down on a flat surface
so as to force the turns of the spiral in a
downward direction and flare the base 50
region of the candle and flatten the lower
underside.

11. A method of forming a candle as
claimed in claim 1 substantially as herein
described with reference to and as illustrated 55
in the accompanying drawings.

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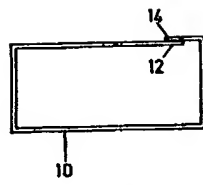


FIG. 1

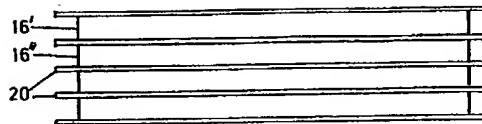


FIG. 3

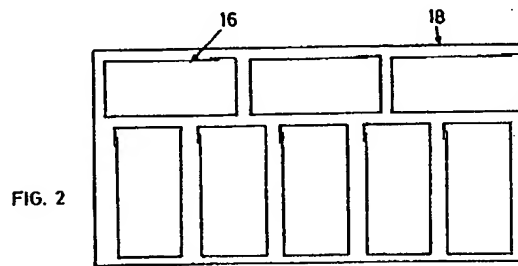


FIG. 2

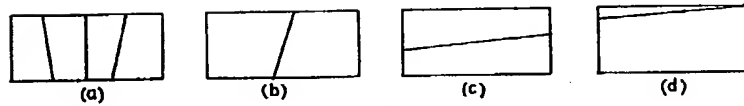


FIG. 4

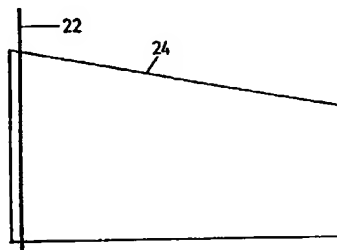


FIG. 5



FIG. 6